

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
21 July 2005 (21.07.2005)

PCT

(10) International Publication Number  
**WO 2005/066280 A2**

(51) International Patent Classification<sup>7</sup>: **C08L 101/00**,  
C08K 5/14, 5/3435, C08G 18/00

(21) International Application Number:  
PCT/US2004/043351

(22) International Filing Date:  
24 December 2004 (24.12.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/532,491 24 December 2003 (24.12.2003) US  
60/612,986 24 September 2004 (24.09.2004) US

(71) Applicant (*for all designated States except US*): **DOW GLOBAL TECHNOLOGIES INC.** [US/US]; Washington Street, 1790 Building, Midland, MI 48674 (US).

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): **CARONIA, Paul, J.** [US/US]; 5 Cider Mill Road, Annadale, NJ 08801 (US). **CHAUDHARY, Bharat, I.** [US/US]; 14 Michelle Court, Princeton, NJ 08540 (US). **COGEN, Jeffrey, M.** [US/US]; 6 Braintree Court, Flemington, NJ 08822 (US). **DREUX, Peter, C.** [US/US]; 100 Harrogate Drive, Lumberton, NJ 08048 (US). **DU, Luke, C.** [US/—]; 5/F, No. 92-1, Song Gao Road, Taipei City (\*\*). **DUNCHUS, Neil, W.** [US/US]; 6 Dogwood Trail, Kinnelon, NJ 07405 (US). **ESSEGHIR, Mohamed** [US/US]; 5 Robin Lane, Monroe Township, NJ 08831 (US). **GOWELL, Robert, W.** [US/US]; 4 Hidden Pond Court, Flemington, NJ 08822 (US). **GROSS, Laurence, H.** [US/US]; 977 Rector Road, Bridgewater, NJ 08807 (US). **GUERRA, Suzanne, M.** [US/US]; 106 Mitchell Close, Hillsborough, NJ 08844 (US). **HAN, Suh, Joon** [KR/US]; 58 Ridgeview Drive, Belle Mead, NJ 08502 (US). **JOW, Jinder** [US/SG]; 15

Ardmore Park, Number 18-03, Singapore 259959 (SG). **KLIER, John** [US/US]; 5717 Stillwater Lane, Midland, MI 48642 (US). **PANG, Kawai, P.** [US/US]; 19 Day Lily Court, Belle Mead, NJ 08502 (US). **PERSON, Timothy, J.** [US/US]; 32 Helen Avenue, Freehold, NJ 07728 (US). **PRIETO GOUBERT, Miguel, A.** [CO/CH]; Bachtelstrasse 20, CH-8805 Richterswil (CH).

(74) Agent: **HANSBRO, Kevin, R.**; The Dow Chemical Company, Intellectual Property, P.O. Box 1967, Midland, MI 48641-1967 (US).

(81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**Published:**

— *without international search report and to be republished upon receipt of that report*

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

(54) Title: FREE-RADICAL CROSSLINKABLE POLYMERS: IMPROVED PROCESS FOR CROSSLINKING AND COMPOSITIONS

(57) Abstract: The present invention is an improved free-radical crosslinking process and free-radical crosslinking polymer compositions. The improved process delivers hotter processing conditions, faster crosslinking, or increased crosslinked densities. The crosslinkable polymeric composition comprises (1) a free-radical crosslinkable polymer, (2) a free-radical inducing species, and (3) a crosslinking-temperature-profile modifier.



WO 2005/066280 A2